
Maine's Sea Urchin Survey

Every year since 2001, DMR has conducted an annual spring sea urchin dive survey, funded by the industry's license surcharge, with the cooperation of industry, the Sea Urchin Zone Council, and scientists and students at the University of Maine. It is probably the most thorough sea urchin survey in the world.

The state's coast was divided into nine regions, and 16 sites are visited in each region each year. Sixty quadrats of one square meter each (m^2) are evaluated at each site.



In 2011, DMR and industry divers counted and measured urchins at 144 shallow sites, working from industry vessels. Crabs, starfish, and algal (seaweed) cover were also evaluated. Forty-five of the sites visited in 2001 were recommended by industry to be revisited each year (fixed sentinel sites, yellow squares below). The other 99 sites (red dots) were picked randomly from suitable bottom types and depths; new random sites are picked each year.



Half of the fieldwork and urchin census-taking is conducted by an industry diver, working side-by-side with an experienced DMR diver from industry vessels. About \$45,000 is returned to the industry annually to pay the urchin diver, vessels, and crews for the nine weeks of the survey.

Results are presented in the graphs on the next page. They show declines in the sea urchin stock biomass in all nine regions since 2001. Zone 2 continues to have more sea urchins than Zone 1, especially in Washington County. Both Zones showed declines until drastic fishing season cuts were made in 2004. Neither Zone has had significant improvement since then.



